

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS SCHMUTZ,
ERICH KRAMER,
HANS ZWEIFEL,
and
BRUNO ROTZINGER

Appeal No. 2000-1448
Application No. 08/709,975

ON BRIEF

Before KIMLIN, LIEBERMAN, and PAWLIKOWSKI, Administrative Patent Judges.
LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 17, 18, 29, 30 and 35, which are all the claims pending in this application.

THE INVENTION

The invention is directed to a process for stabilizing a thick walled polyolefin molding and placing said molding in permanent contact with water. The stabilizer comprises three specific components including a phosphite, a sterically hindered phenolic compound, and a sterically hindered amine having a molecular weight greater than 1000. Additional limitations are disclosed in the following illustrative claim.

THE CLAIM

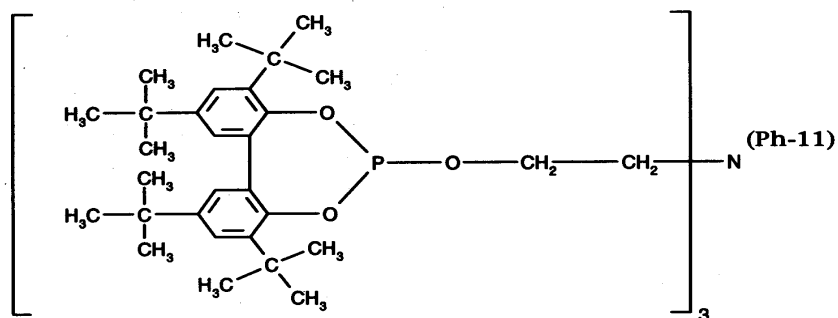
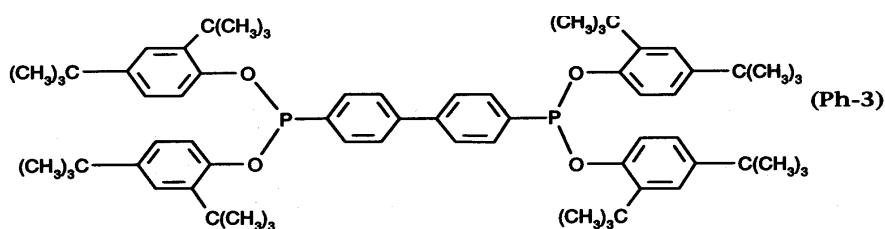
Claim 35 is illustrative of appellants' invention and is reproduced below:

35. A process for stabilizing and using a thick-walled polyolefin molding, which comprises incorporating into, or applying to said thick-walled polyolefin molding, a mixture of from about 0.02 to about 0.6%, based on weight of polyolefin, of component (b); from about 0.02 to about 0.5%, based on weight of polyolefin, of component (c); and from about 0.02% to about 1.0%, based on weight of polyolefin, of component (d), wherein:

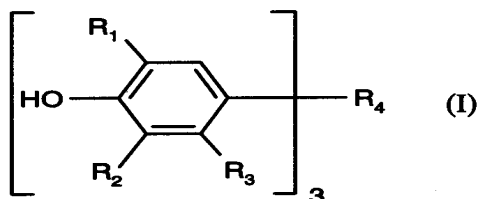
component (b) is selected from the group consisting of tris(2,4-di-tert-butylphenyl)

and
nds of
Ph-3
11;

compou
formulas
and Ph-

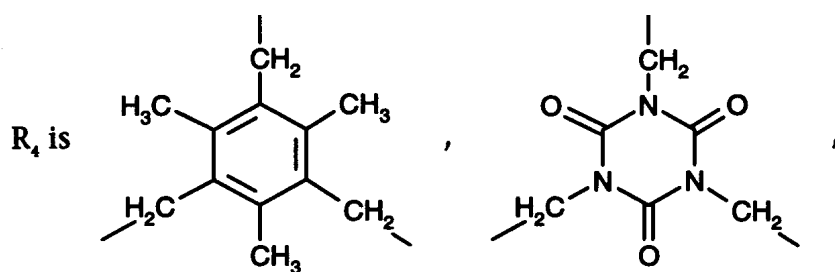


component (c) is a compound of formula I

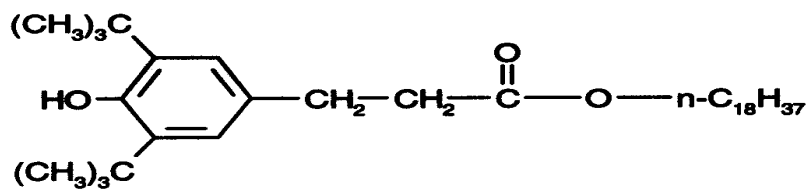
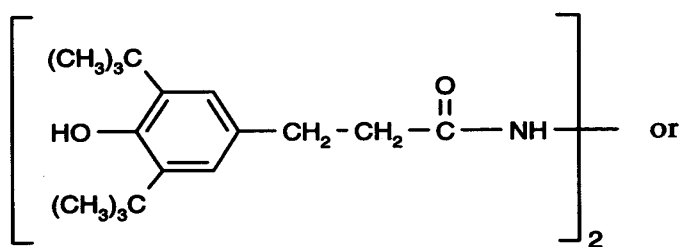
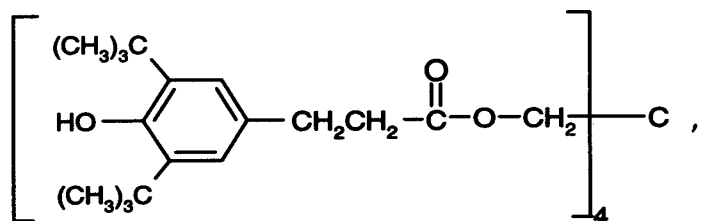


in which

R₁ and R₂ is tert-butyl,
 R₃ is hydrogen, and



or in which component (c) is



and component (d) is a compound selected from the group consisting of sterically hindered amines having a molecular weight greater than 1000 and which contain at least one radical of the formula VI or VI'

wherein R_{13} is hydrogen or methyl; and

placing said stabilized thick-walled polyolefin molding in permanent contact with water.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references:

Spivack et al. (Spivack)	4,318,845	Mar. 9, 1982
Mülhaupt et al. (Mülhaupt)	5,045,577	Sep. 3, 1991
Akashi et al. (Akashi)	5,300,257	Apr. 5, 1994

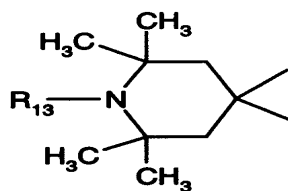
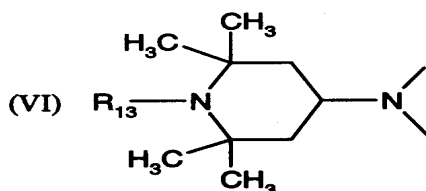
Costanzi et al.	EP 0 343 717 A2	Nov. 29, 1989
(published European Patent Application) (hereinafter referred to as EP '717).		

Staniek et al.	GB 2 278 362 A	Nov. 30, 1994
(published Great Britain patent application) (hereinafter referred to as GB' 362).		

THE

REJE

CTIONS



(VI') Claim

s 17,

18,

29, 30

and

35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mülhaupt or

Spivack.

Claims 17, 18, 29, 30 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over GB '362.

Claims 17, 18, 29, 30 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mülhaupt, Spivack, and GB '362 in view of EP '717 and Akashi.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner, and agree with the appellants that the rejections of claims 17, 18, 29, 30 and 35 on the grounds of obviousness are not well founded. Accordingly, we reverse these rejections.

As an initial matter, appellants state that, “[c]laims 17-18, 29-30 and 35 are to be considered together.” See Brief, page 4. Accordingly, we select claim 35, the sole independent process claim as representative of the claimed subject matter and limit our consideration thereto. See 37 CFR § 1.192(c)(7)(1999).

The Rejections under Section 103

It is appellants’ position that they, “have found a particular selection of stabilizers for polyolefins which are never exemplified per se out of the broad and generic descriptions given in any of the cited prior art references for stabilizing thick-walled polyolefins and which in turn prove to be particularly resistant to loss from the polyolefin when said stabilized polyolefin is in permanent contact with water.” See Brief, page 8. We agree.

Mülhaupt is directed to a process for the preparation of olefin polymers stable to heat and oxidation by the addition of a plurality of stabilizers to the polymerization. See column 1, lines 5-8. We find that the plurality of stabilizers includes a 2,2, 6,6-tetramethylpiperidine and a phosphorous III ester. See column 2, lines 40 -60. The piperidine stabilizers may have molecular weight in excess of 700 and accordingly read on the requisite molecular weight of greater than 1000. See column 2, lines 62-65. We find that the piperidine stabilizers include oligomeric or polymeric compounds having molecular weights in excess of 1000 wherein m is a number of from 2 to about 200. See column 15, lines 55 to column 16, line 59. We find that of the particular suitable compounds, those numbered 74, 76, 84, 87, and 92 may have molecular weight in excess of 1000. See column 21, lines 14-15 and the specific compounds referred to therein. We find that the piperidine derivatives exemplified by H-1 have a molecular weight in excess of 1000. We find that AO-1 and AO-3 are each phenolic antioxidants falling within the scope of the claimed subject matter. See column 25, lines 15-20. We further find that the phosphorous compounds P-2 correspond to Ph-3 of the claimed subject matter. We further find that Example 6 of Mülhaupt disclose each of the preferred antioxidants in proportions which fall within the scope of the claimed subject matter. Mülhaupt lacks only a disclosure or suggestion that the composition may be placed in permanent contact with water.

Spivack however, likewise directed to the stabilization of polyolefins, states that, “[a]

particularly important property for stabilizers which are trivalent phosphorous esters is their non-hygroscopicity and resistance to hydrolysis in the presence of moisture in the atmosphere during ambient storage.” See column 7, lines 50-54. We find that “hydrolysis of the phosphorous ester stabilizers during storage frequently results in compounds which are less effective.” See column 7, lines 57-60. The phosphorous compounds disclosed by Spivack include those corresponding to Ph-11 of the claimed subject matter. See column 2, lines 1-26. There is however, no disclosure or suggestion of placing the composition in permanent contact with water.

GB ‘362 is likewise directed to processing stabilizer compositions containing phosphites or phosphonites. We find that GB ‘362 is concerned with hydrolytically decomposed phosphites and phosphonites being far less effective when used as stabilizers. See page 1. An important advantage described is that phosphonites when incorporated into polymers are also protected from the influence of moisture humidity and water so that the properties of the polymers are not adversely affected. Id. We find that patentee is concerned that the problem of the hydrolysis of phosphites is especially aggravated in polyolefins. See page 2. We further find that the resistance of processing stabilizers like phosphites and phosphonites is improved by the use of HALS, sterically hindered amine light stabilizer, compounds. Id. We find that the phosphites disclosed include those corresponding to the Ph-3 of the claimed subject matter. See Formula I, pages 4 and 5. We find that the Table on page 33 discloses a polymeric HALS material in combination

with Sandostab P-EPQ. Finally, we find that further additives including sterically hindered phenols may be added to the composition of GB '362, See page 22.

Akashi discloses that the same phosphonites of GB '362 are particularly superior in hydrolysis resistance. See column 2, lines 60-68, and Example 1. EP '717 is directed to a novel polyorganosiloxane containing sterically hindered piperidino groups, page 2, line 1 to page 5, line 38, and page 8, lines 18-21, but adds little to the prior disclosures.

Although, it would appear at first instance that GB '362 provides a suggestion for placing the stabilized thick-walled polyolefin molding in permanent contact with water, reference to Example 1 discloses that a composition prepared from a mixture of Sandostab P-EPQ, a phosphonite stabilizer within the scope of the claimed subject matter and Chimassorb 944b, a hindered amine within the scope of the claimed subject matter, after exposure to 80% relative humidity at 60°C results in the hydrolysis of 57% of the phosphonite stabilizer within three days. Although this result discloses a substantial improvement over the utilization of the phosphonite stabilizer alone, we conclude that the suggestion of improved protection from moisture, humidity, and water, in and of itself, is insufficient to suggest and provide adequate motivation to permanently contact the polyolefin molding compositions with water, in view of the extensive hydrolysis of the stabilizer.

Our position is further supported by the data present in the specification wherein extraction experiments are conducted with the molding compositions in contact with water

at 95 to 105°C, for periods of time up to 668 days. See Table 4, Table 7, and Table 9.

The data recorded in the specification is persuasive of the utilization of the combined stabilizers in a molding composition in permanent contact with water.

We conclude that the combined references in the third rejection are insufficient to establish a prima facie case of obviousness with respect to the claimed subject matter.

Inasmuch as the references together are insufficient to meet the requirements of obviousness, it follows that each of the rejections directed to Mülhaupt, Spivack or GB '362 is likewise insufficient to establish a prima facie case of obviousness.

See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("[T]he best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references").

DECISION

The rejection of claims 17, 18, 29, 30 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Mülhaupt or Spivack is reversed.

The rejection of claims 17, 18, 29, 30 and 35 under 35 U.S.C. § 103(a) as being unpatentable over GB '362 is reversed.

The rejection of claims 17, 18, 29, 30 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Mülhaupt, Spivack and British '362 in view of EP '717 and Akashi is reversed.

The decision of the examiner is reversed.

REVERSED

EDWARD C. KIMLIN
Administrative Patent Judge

PAUL LIEBERMAN
Administrative Patent Judge

BEVERLY A. PAWLIKOWSKI
Administrative Patent Judge

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CIBA SPECIALITY CHEMICALS CORP.
PATENT DEPARTMENT
540 WHITE PLAINS ROAD
P.O. BOX 2005

Appeal No. 2000-1448
Application No. 08/709,975

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